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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,614	07/25/2001	Takeshi Kouno	520.40206X00	3460

20457 7590 11/22/2002

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EXAMINER

GRAY, MICHAEL KUHN

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 11/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/911,614

Applicant(s)

KOUNO ET AL.

Examiner

Michael K. GRAY

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Drawings***

The drawings filed with the application are in a formal condition; however, objection is made for the reason that claimed elements have not been provided with references numerals that have been explained in the specification. For example, the claimed "flat surface portion" appearing at the end of claim 2 has not been identified with a reference numeral in the drawings.

All claimed elements and parts thereof should be provided with a reference numeral in the drawings which has been identified in the specification.

### ***Abstract***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means", "comprising" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. Mere recitation of claim language should be avoided.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Specification***

The specification should be reviewed for minor errors and omissions.

Further, the terminology used should be reviewed to insure it conveys applicants' invention accurately. The language "curved surface" which is present in the claim language to describe the valve and valve seat would not seem to be accurate. Rather, the word "conical" or "tapered" would seem more applicable. Accordingly, a careful review should be undertaken.

***Title***

The title of the application is objected to as being non-descriptive.

A new title such as "Tapered Valve and Valve Seat for Compressor" is recommended.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Indefinite language is present throughout the claims.

In claim 1, line 6, the terminology "valve means" is improper. One would not use the expression "means for valving". The applicants should recite either a "valve" or use the phrase "opening and closing means".

In lines 8-10, the language "so that a cross-section area of said discharge port comes to be large from a side of the compression chamber" is unclear. Do the applicants mean that the area increases as one goes from the compression chamber 21 toward the spring 19?

In lines, 11-12, the "curved surface" language is not accurate. The word conical or tapered is more on point.

In line 14, the language "a means being provided on a member formed in one body" is indefinite. What body is being claimed?

The above-indicated indefinite language is repeated in claims 2-8.

In claims 9-12, the language "so that said valve is freely contact on or separate from a sheet surface" is indefinite.

With reference to claim 12; no antecedent basis exists in claims 1-3 for "said holding means".

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by

Chambers.

Chambers demonstrates a compression chamber located above the piston 14 and below valve 35. A discharge port is formed at the bottom periphery of the valve seat 20 such that a cylindrical area is formed which fluidly connects to the compression chamber. (Figure 1). The valve seat 20 has a conical shape and is formed to accommodate and make contact with the conical sides of the valve 35. A spring 68 biases the valve to the valve seat 20. The bottom of valve 35 has a flat surface which is arranged in parallel to the top surface of the piston 14. The head 36 and plate 38 have bores which form a discharge passage to a discharge chamber 42. A spring guide 62 supported by the head 36 allows the spring 68 to hold or bias the valve against the valve seat 20.

### ***References***

The following references should be reviewed as they could be applied to the claims in their current form.

Roddis (5,897,305) teaches a valve assembly for a compressor. Notice the cylindrical region below the flat portion at the bottom of valve 44a and the conical shape of the valve and valve seat 62.

King (4,368,755) teaches a valve assembly.

Hugenroth et al. (6,132,191) teach a check valve for a scroll compressor.

Japanese Published application 8-319973 teaches a tapered valve and valve seat for a compressor. The valve is biased by a spring.

**Communication**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Gray whose telephone number is (703) 308-6196.

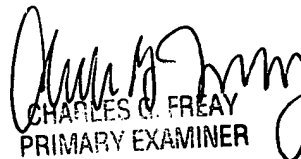
If the examiner does not answer the phone, a message will be provided as to when he will be in the Office. A message may be left on the examiner's voice mail.

The examiner's supervisor Timothy Thorpe can be reached at (703) 308-0102.

The examiner's fax number is (703) 746-4527.

Any inquiry of a general nature should be directed to the receptionist whose telephone number is (703) 308-0861.

<sup>mkg</sup>  
**/Michael K. Gray**  
**Patent Examiner**  
**Art Unit 3746**

  
CHARLES C. FREAY  
PRIMARY EXAMINER